

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 38.

December, 1936.

No. 456.

A BOTANICAL SCRAPBOOK

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IN preparing a flora of the northernmost regions of Eastern North America, nowadays generally referred to as the "Canadian Eastern Arctic," I am attempting to gather together, revise and fully record all of the more substantial plant collections that have been made therein.¹ These collections are numerous and often quite extensive, having been brought back from almost all parts of the Canadian Eastern Arctic during the past century and a quarter, but with a few exceptions they have never been critically worked out, or at least have not been published upon. Indeed we have only to exclude Simmons' excellent "Flora of Ellesmereland"² and "Phytogeography,"³ a recently published account of the vegetation of Akpatok Island,⁴ and some scattered references that are diffused through other works, to say that the botanical literature of these vast tracts is

¹ The area concerned is difficult to define exactly, but except that it excludes Greenland, and for the present purpose also Ellesmereland (whose flora is well known) and Boothia Felix, it may be said to comprise most of the mainland of North America that lies east of Long. 95° W. and north of Lat. 60° N., and all of the islands (including the 1000-miles long Baffin Land) of the Arctic Archipelago that lie either wholly or in part within these boundaries. I should be very pleased to hear of any further collections from within this area that I have not already seen in North America or shall not be likely to see in visiting the main European herbaria.

² "The Vascular Plants in the Flora of Ellesmereland" *Report of the Second Norwegian Arctic Expedition in the 'Fram' 1898-1902*. Nr. 2: pp. 1-198. Kristiania 1906: by Herman G. Simmons.

³ "A Survey of the Phytogeography of the Arctic American Archipelago with some Notes about its Exploration." *Lunds Universitets Årsskrift*. Nr. 19: pp. 1-183. Lund 1913: by Herman G. Simmons.

⁴ "The Vegetation of Akpatok Island, Part I" *Journal of Ecology*. 22: pp. 337-395. 1934 and id., Part 2 *Journal of Ecology*. 23: pp. 161-209. 1935: by Nicholas Polunin.

limited to a mere half-dozen short lists of the more conspicuous plants that are to be observed at certain coastal points.

The most recent and extensive collections from within this area are in the possession either of the Gray Herbarium of Harvard University or of the National Herbarium of Canada at Ottawa; but while the vast majority of the *early* collections were made by adventurous Englishmen and so are housed in the British Museum or Kew Herbarium, there has nevertheless come to light on this side of the Atlantic one scrapbook containing several old collections. These are of such absorbing interest and historical value that they must surely not be missed by any student of the flora of Arctic America, while a survey of the history and contents of the scrapbook may well prove of interest to an even wider circle of readers.

The existence of this scrapbook was mentioned to me recently by Professor J. H. Faull of Harvard and enquiries soon led to its being loaned to the Gray Herbarium through the kind offices of Dr. Thomas M. C. Taylor of the Department of Botany of the University of Toronto. It appears to have been compiled in the 1850's by one "Adam White Esq., F.L.S. &c., British Museum," from specimens given him by their collectors—not for him to identify but to keep for his own edification, since he seems to have been "a mere entomologist with an eye for flowers." Handed down in the family, it has recently been presented to the University of Toronto by a descendant residing in that city.

The scrapbook contains, among illustrations of varying appropriateness, an autographed engraving of the navigator W. E. Parry and an original watercolour sketch "to Adam White F.L.S. C.Ede del. Griffiths Island. Grave of G. S. Malcolm A.B. H.M.S. Resolute who died from the effects of frostbite in the feet." With engaging naïvete we are told in another appended handwritten note that "The plant which covered Malcolm's grave was the *Saxifraga oppositifolia*. This is the favourite flower of Dr. Greville, as ascertained by Dr. Johnston who wrote to ask him." Among other curios that are stuck in the book is a large piece of birch bark on which we see written (apparently in December 1835) "From Fort Reliance, brought home by Captain Back" and signed, "John Richardson." There is also a specimen of *Parrya arctica* R.Br. labelled by the great Robert Brown himself as "For Mr. Adam White: Sir James Ross's last Voyage."

These and a few other items, connected as they are with well-known

early navigators and pioneer explorers and naturalists, add considerable human interest to the scrapbook; but its real *value* lies in the plant collections which it contains, and of each one of these I will now give some account in the order in which it appears in the book.

First there is a series of 36 plants, mostly different species of phanerogams and many of them unnamed, collected by Dr. Peter C. Sutherland as recounted in his "Journal of a Voyage in Baffin's Bay and Barrow Straits in the years 1850–1851, performed by H.M. Ships 'Lady Franklin' and 'Sophia,' under the command of Mr. William Penny, in search of the missing crews of H.M. Ships 'Erebus' and 'Terror.'"¹ Most of the plants were collected in the summer of 1851 around the wintering quarters of the expedition at Assistance Bay, Lat. 74° 40' N. Long. 94° 16' W. on Cornwallis Island, but a few came from Bushnan (often spelled Bushman) Island, Lat. 76° N. and Berry Island, Lat. 73° 20' N. (both on the Greenland side of Baffin's Bay) while one is marked "Northumberland Inlet,"² a locality which was however not visited by the expedition. Each specimen is labelled fully with locality and date, with generally some information as to the habitat, and, at the bottom, "H.M.S. Sophia."

A list of the "Plants collected during the voyage, and named by Sir W. J. Hooker, K.H. D.C.L. F.R.S. & L.S. etc." is given as an appendix to Sutherland's "Journal." The expedition having been "ordered to push forward in the search for Franklin," little scientific work was done and this list of plants is short, consisting of only 54 items representing about 46 species and varieties, nearly half of whose names now have to be changed. The collection in the scrapbook, while it appears to have been given to Adam White on the return

¹ London 1852: 2 vols.

² The label attached to this plant, a relatively luxuriant flowering specimen of *Pyrola grandiflora* Rad., reads: "Kennooksvooke Northumberland Inlet Lat. 67° North Long. 65° W. September 1846 Pyrola. The esquimaux and Danish settlers in West Greenland prize it as a valuable antiscorbutic." This label is in the spidery handwriting of Sutherland and the plant was evidently collected by him on a previous expedition (he mentions in the introduction to his "Journal" that he had already accompanied Capt. Penny "in two whaling voyages round Baffin's Bay"). Nevertheless we find this and nine other species from Northumberland Inlet mentioned in Sutherland's "Journal" in the list of "Plants collected during the voyage," with the result that Simmons in his "Phytogeography" (l.c.) has assumed Northumberland Inlet to be in the northwest of Devon Island and has erroneously recorded these plants as having been collected there by Sutherland. In reality Northumberland Inlet lies a full thousand miles to the southeast, being the large inlet in southeastern Baffin Land now called Cumberland Sound. Nor was it discovered, as Sutherland writes on p. clxxxix of the appendix to his "Journal," by Captain Penny who called it "Hogarth Sound," but instead by Davis who already in 1585 appears to have given it the name of Cumberland Inlet.

of the expedition and hence not to have been seen by the elder Hooker, does not afford any notable additions with the exception of *Poa abbreviata* R. Br. from Assistance Bay. Nevertheless it is valuable, even apart from its age and sentimental connections, as a duplicate set from the material which to this day affords almost the sole basis of our admittedly slender knowledge of the flora of Cornwallis Island.

Mixed in the book with these specimens of Sutherland's made in 1851 or previously are (1) a few others collected by him at various points up the West Coast of Greenland when serving on another Franklin search expedition on which he embarked the year after his return from the first and (2) six specimens of phanerogams collected on Cornwallis Island in 1851 by "Charles Ede R.N." An old newspaper cutting stuck in the scrapbook tells us that "Mr. Ede was assistant surgeon to Captain Ommanney's ship, on her late search after Sir John Franklin." This was H.M.S. Assistance, for which Assistance Bay was named. These specimens do not appear ever to have been noticed before; at least I can find no reference to them in arctic botanical literature, although often the collection of only a single plant by one of these early voyagers has been sufficient for his immortalisation therein! There are also in the scrapbook a few other phanerogams collected by Ede in Wolstenholme Sound and at other points on the Greenland side of Baffin's Bay, and several cryptogams collected on Cornwallis Island and at various points along the west coast of Greenland.¹

Next in the scrapbook comes a series of 13 plants introduced as "collected by Sir John Richardson on his last journey to the shores of Arctic America when searching for Sir John Franklin." The plants are all different species of dicotyledons and are named in Richardson's handwriting but without date or even locality except of the vaguest order, almost all being merely labelled "arctic sea coast." Such vague labels, including Euphorbias which I have seen marked "Arctic

¹ A specimen of *Thymus Serpyllum* L. var. *prostratus* Horn. against which is marked in the handwriting of Ede "Wolstenholme Sound Dr Sutherland" must surely have been collected elsewhere. The species is well known in West Greenland but according to M. P. Porsild (Meddelelser om Grønland 1926 p. 140) is "a distinct southern type" having its northernmost limit near Holsteinsborg (Lat. 66° 55' N.) whereas Wolstenholme Sound lies around a latitude of 76° N. This specimen, exhibiting luxuriant growth and abundant flowers or their remains, was probably collected at Fiskernaes in southwest Greenland, a locality already represented by a specimen of *Bartsia alpina* L. on the very same page of the scrapbook. A specimen on another page of *Lychnis alpina* L. "Wolstenholme Sound Dr Sutherland" seems more feasible since, although this too is rather a southern species, it has been recorded from at least as far north as 72° N. on the West Coast of Greenland.

N. Amer.," are characteristic of many of Richardson's large collections and have caused a great deal of trouble to students of the flora of the areas through which he travelled. Indeed Richardson seems to have been a rather vague sort of person himself, although in other ways a most admirable one, for in a letter dated October 2nd 1850 which is stuck in the scrapbook and which he wrote apparently to Adam White he begins "My dear Sir: According to promise I send you a few specimens of plants gathered on the shores of the Arctic Sea. I have stupidly mislaid the address of the gentleman who translated . . . for me. If you can quietly ascertain . . . " However in the present instance the plants appear to have been gathered in all cases either at or within a few hundred miles to the east of the "Mouth of the Mackenzie" (one specimen is indeed so labelled) and, except for rather minor range extensions in the cases of "*Salix speciosa*" and "*Hippuris maritima*," to have been covered by the elder Hooker in his well-known "*Flora Boreali-Americana*," the principal material for which indeed came from Richardson's earlier collections.

There follow in the scrapbook a single specimen from Skelefteå in Sweden, collected in 1854 by J. Wolley, and then 20 phanerogams collected in southern Norway by L. Esbark, well preserved but of no particular interest. Also well preserved but this time of considerable interest and value is the last collection in the book. This consists of about 25 species of dicotyledons, almost all "pretty flowers" but named only as far as the genus, with engraved labels headed "Herb. Ind. Or. Hook. fil. et Thomson." They thus formed part of the great collections made by Drs. J. D. Hooker and Thomas Thomson in India and the Himalayas in the late 1840's, which resulted in a number of well-known botanical and other works, including their combined but never finished "*Flora Indica*" (the first volume of which was published in 1855, to be followed by "*Praecores ad Floram Indicam*" in the *Journal of the Linnean Society*), Thomson's "*Western Himalaya and Tibet*," Hooker's "*Himalayan Journals*" and finally his great seven-volume "*Flora of British India*."

The Governing Body of the University of Toronto are indeed to be congratulated on having acquired such an historically interesting and valuable scrapbook, and to be thanked for their generosity in giving me such free access to its contents.

GRAY HERBARIUM.